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Ms. Magalie Roman Salas
Federal Communication Commission
The Portals- 445 12th Street S.W.
TW-A235
Washington D.C. 20554

January 4, 2001

"Re: ET Docket No. 98-206, DA99-494: Diversified Communication Engineering, Inc., File Nos. 6001-EX-MR-1998, 0094-EX-ST-1999; Call Sign WA2XMY: EX PARTE."

Dear Ms. Salas:

I write to you to express my concern regarding the letter filed to the FCC in ET Docket No. 98-206 on August 10, 2000 by counsel for DirecTV. On the page of that filing titled: "Use a planar array in disrupted areas." DirecTV provided you with performance data of the Fortel planar array. DirecTV claims the performance of planar array antennas remains "significantly below" that of parabolic antennas. However, we do not believe that data shown in this report applies to the planar array antenna manufactured by Fortel. We have attached our actual performance specifications, which demonstrate that the Fortel planar array antenna specifications for G/T meet or exceed those of the parabolic offset feed antenna.

In addition, I am happy to provide you with the results of independent testing of the Fortel antenna by SES ASTRA of Luxembourg, an internationally recognized test and evaluation laboratory. The SES ASTRA evaluation shows that the Fortel planar array antenna performance is actually superior to the 45 cm parabolic offset feed antenna.

Measurements with respect to G/T and efficiency

"The antenna was fixed to a turntable and the C/N ratio of some of the ASTRA analogue transmissions (TP 4, 15, 34 and 62) was measured. From that value and the DCMS EIRP readings, together with the footprint predictions in Betzdorf and assuming a noise figure of the LNB of 1.0 dB, a best approximation for an average G/T figure for the outdoor unit (antenna plus LNB) was calculated. It was found that the antenna had a good performance over the whole 2.05 GHz frequency band from 10.70 to 12.75 GHz.

The obtained G/T value is 14 dB/K. This corresponds to either a 52 cm antenna (equivalent circular surface) and an efficiency of 80 to 85 %, or a 60 cm antenna with 64% efficiency.

3 dB Beamwidth

The dimension of the antenna in the azimuth plane is 65 cm. The measured 3 dB beamwidth of the antenna in this direction was found to be appr. 3.4°.

Radiation pattern

The first null of the antenna pattern was measured to be at appr. 5°. From thereon, the antenna level was more than 25 dB below peak."

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We are not aware of the source of the data that DirecTV provided to the Commission, however, Fortel did provide a pre-production model of its planar array antenna to DirecTV in the Spring of 1998. Fortel had informed DirecTV at that time that those arrays were pre-production prototypes model which was not fully optimized, and was to be used for marketing and other non-technical evaluation purposes. I personally informed DirecTV that, though the antenna would enable them to "obtain a picture", the antenna should not be used for conducting any formal testing. Thus, whatever the source of DirecTV data, it can not apply to the Fortel antenna, which, through independent testing is demonstrated to have equal or superior performance to the parabolic offset feed antenna commonly used by DBS in the U.S.

Should you require further information, please do not hesitate to call me.

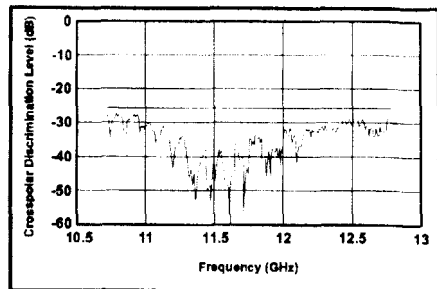
Regards

A handwritten signature in black ink, appearing to read "Mark E. Parks", written over a horizontal line.

Mark E. Parks
Director, Vice President

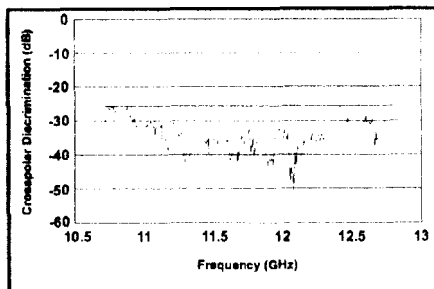
Cross-polarisation - Front Elements

Cross-Polarisation



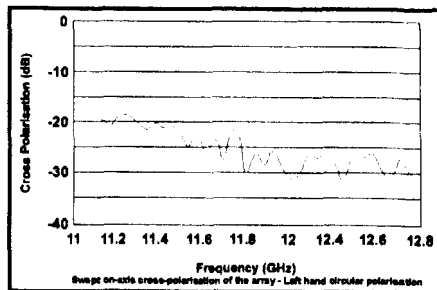
Cross-polarisation - Back Elements

Cross-Polarisation



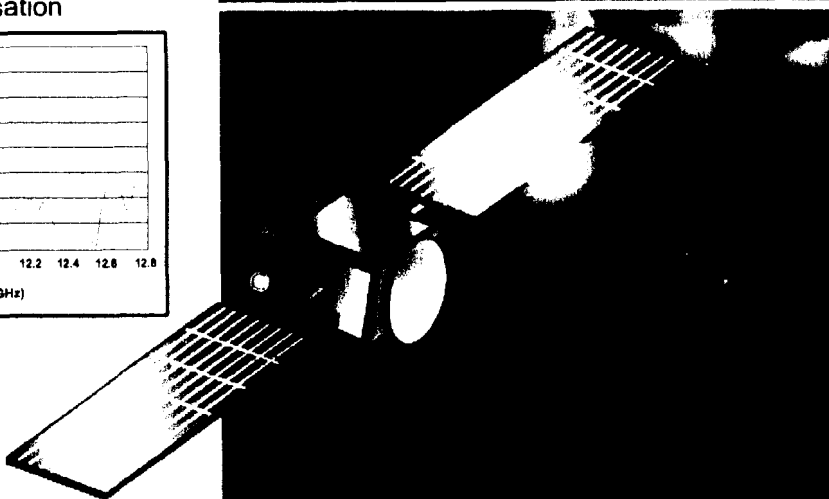
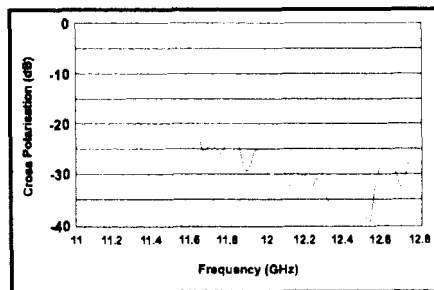
Circularly polarised array - LHCP

Cross-Polarisation



Circularly polarised array RHCP

Cross-Polarisation



FOR FURTHER INFORMATION CONTACT

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FAX: 044 1334 840405

DEBBIE COLLINS

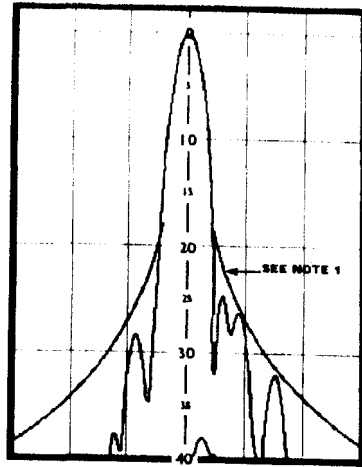
E-MAIL: DCOLLINS@FORTEL-INT.COM

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Fortel
International Ltd

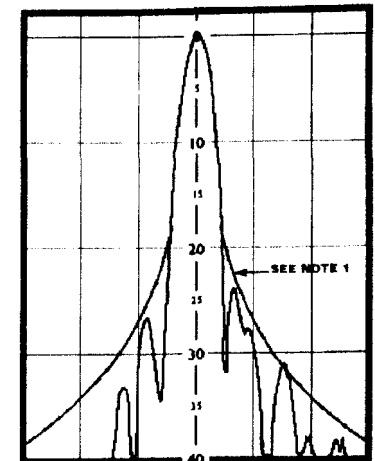
FORTEL PLANAR ARRAY

The Fortel Ku-band TVRO antenna is made up of four plates consisting of 144 square waveguide apertures feeding 144 compact waveguide OMT's, which in turn feed two waveguide 17 corporate networks. The final output is combined in a single OMT to provide a common circular waveguide output. The two waveguide 17 feed networks provide 90 degrees as a differential phase shift, thus when the LNB polarisation is set to be diagonal to that of the two feed networks it receives dual circular polarisation, and 45 degrees from the diagonal is the dual linear polarisation.

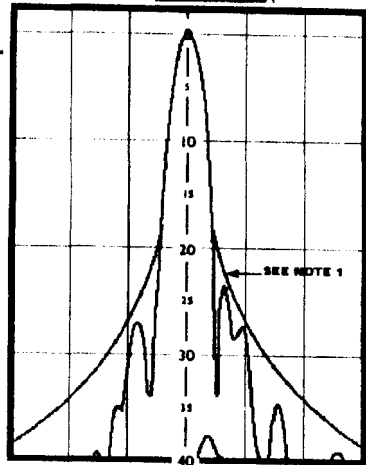


Radiation pattern:
Frequency: 11.7GHz
Polarisation: Vertical
Cut: 90 degrees (azimuth)
Amplitude scale: 40 dB
Angle scale: ± 22.5 degrees

Receive Aperture	470mm x 470mm
Weight	4.2 Kilo
Operating Temperature	-40°C to + 50°C



Array Radiation pattern:
Frequency: 11.7GHz
Polarisation: RHCP
Cut: 90 degrees (azimuth)
Amplitude scale: 40 dB
Angle scale: ± 22.5 degrees



Radiation pattern:
Frequency: 11.7GHz
Polarisation: Horizontal
Cut: 90 degrees (azimuth)
Amplitude scale: 40 dB
Angle scale: ± 22.5 degrees

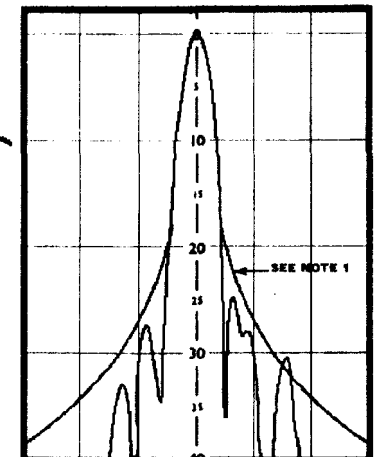
Linear Polarity Performance

Parameter	Measured Value
Frequency range	10.7 to 12.75 GHz
Polarisation	Dual linear
Gain	33.2 to 34.8 dBi
Half Power Beamwidth	2.7 to 3.3 deg.
Sidelobes	-28dB
Return loss	-10 dB to -18dB
System G/T	> 13dBK
Cross-Polarisation	> 26 dB on-axis

Circular Polarity Performance

Parameter	Measured Value
Frequency range	12.2 to 12.7 GHz (10.7 to 12.75 GHz)
Polarisation	Dual Circular
Gain	>34.1 dBic
Half Power Beamwidth	2.7 to 2.8 deg.
Sidelobes	-28dB
Return loss	<-18 dB
System G/T	> 13dBK
Cross-Polarisation	> 26 dB on-axis

• **NOTE 1** The sidelobe template is a SES (ASTRA) Recommendation for a 60cm antenna (DTH and SMATV Reception Equipment)



Array Radiation pattern:
Frequency: 11.7GHz
Polarisation: LHCP
Cut: 90 degrees (azimuth)
Amplitude scale: 40 dB
Angle scale: ± 22.5 degrees